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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,524	05/30/2007	Goran Bijelic	011765-0356407	3577

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PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

PORTER, JR. GARY A

ART UNIT	PAPER NUMBER
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3766

MAIL DATE	DELIVERY MODE
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12/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,524

Applicant(s)

BIJELIC ET AL.

Examiner

GARY A. PORTER, JR

Art Unit

3766

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 7/27/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Normann et al. (US Patent 5,215,088).

3. Regarding claim 1, Normann teaches a nerve or muscle stimulation apparatus comprising a nerve stimulation array electrode comprising a substrate capable of being applied to the skin of a user bearing an array of electrodes that would subsequently be in contact with the skin of the patient when the substrate is positioned on said skin, one or more input contacts, the or each said input contact being switchably electrically connected to a group of electrodes via a multiplexing system consisting of some or all of said electrodes, and user operable switch means, i.e. a multiplexer for performing said electrical connection by making and breaking electrical connection between the or each said input contact and any selected one or ones of its respective group of said electrodes (col. 2, lines 12-57).

4. In regards to claim 2, Normann teaches said substrate bears an array of electrodes arranged in rows and columns (Fig. 1).

5. With regards to claim 3, Normann teaches there are at least 12 electrodes in the array (Fig. 1).

6. Regarding claim 4, Normann teaches there are at least 24 electrodes in the array (Fig. 1).

7. In regard to claim 5, Normann teaches the electrodes are evenly spread over the substrate. In the disclosure of Normann et al., Normann teaches that the electrode bases are formed by the intersection of orthogonally intersecting cuts (col. 7, lines 22-39; Fig. 9) which results in evenly spaced electrodes (Fig. 1 and 15-20).

8. With regards to claims 6 and 7, Normann teaches the maximum space between adjacent electrodes is no more than 2 mm. Normann teaches that the kerf, i.e. width, of the cuts made between the respective electrode pads is 270 microns, i.e. 0.270 mm (col. 7, lines 6-7).

9. In regards to claim 8, Normann teaches the switch means, i.e. AND gates 40, of the multiplexing circuitry, is carried by the substrate (Fig. 2; col. 4, lines 48-61).

10. Regarding claim 10, Norman teaches the switch means comprises an electronic user interface unit, i.e. a video camera, and an electronic switching unit, i.e. multiplexing circuitry comprising shift registers (col. 4, line 62-col. 5, line 14).

11. In regards to claim 11, it has been held that the recitation that an element is "Adapted To" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Furthermore, the Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the

intended use, then it meets the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). In light of the functionality of the claim, Normann teaches said electronic user interface unit accepts programming, i.e. the internal circuitry of the camera alters the output signal based on images received, to alter said selection of electrodes to accommodate said selection to alterations in the desired site of stimulation with time (col. 4, line 62-col. 5, line 14).

12. With regards to claim 12, it has been held that the recitation that an element is "Adapted To" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Furthermore, the Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). In light of the functionality of this claim, Normann teaches said electronic switching unit, i.e. multiplexing circuitry comprising shift registers 54, 56, is mounted to said substrate and wherein said electronic user interface unit is remote from said substrate and is wirelessly connected

or in wired connection with said electronic switching unit via input 46 (col. 4, line 62-col. 5, line 14).

13. Regarding claim 13, Normann teaches one or more further electrodes connected to said switch means. Given the broadest reasonable interpretation for this claim, the ohmic contacts, i.e. ground connections, on the back of each column can be considered separate electrodes from the array on the reverse side of the substrate (col. 8, lines 24-35).

14. In regards to claim 14, Normann teaches the user operable switch means is operable to make connection between the or a said input contact and a first electrode set constituted by a selected one or selected ones of its respective group, i.e. X-axis electrodes selected by the X-axis shift register 54, and with a second electrode set constituted by a selected one or selected ones of its respective group, i.e. Y-axis electrodes selected by the Y-axis shift register 56, leaving disconnected at least one further electrode positioned between said first and second electrode sets (col. 4, line 62-col. 5, line 14; Fig. 2). By this definition, the first row and first column have logic values "1" thus activating the electrode in the top left corner (Fig. 2). Then the first row and fourth column have logic values "1" thus activating the electrode in the top right corner. Subsequently, there are two electrodes between these that are not activated, thus the array is capable of performing the limitation as claimed.

15. With regards to claim 15, Normann teaches a source of nerve or muscle stimulation signals connected to the or said input contact 46 (col. 4, line 62-col. 5, line 14).

16. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernard (US Patent 5,873,849).

17. Regarding claim 1, Bernard teaches a nerve or muscle stimulation apparatus comprising a nerve stimulation array electrode (col. 6, lines 7-19) comprising a substrate 45 capable of being applied to the skin of a user bearing an array of electrodes 34a-c that would subsequently be in contact with the skin of the patient when the substrate is positioned on said skin; one or more input contacts, the or each said input contact being switchably electrically connected to a group of electrodes consisting of some or all of said electrodes, and user operable switch means for performing said electrical connection by making and breaking electrical connection between the or each said input contact and any selected one or ones of its respective group of said electrodes (col. 6, lines 36-64).

18. In regards to claim 9, Bernard teaches the switch means comprises a respective manually operable switch associated with each electrode (col. 6, line 54-55).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hofmann et al. (US Patent 5,702,359) discloses an electrode array capable of being mounted on the skin, wherein the electrode array is manually connected to a signal generator and is therefore manually switchable allowing for certain electrodes to be connected and disconnected at any given time. Hofmann (US Patent 6009347, 6120493) for the same reasons above. Greenberg et al. (US Patent 6,165,192) discloses an electrode array with tack electrodes capable of being placed on

the skin. Humphrey (US Patent 6,171,239) discloses an electrode array for nerve stimulation. Mann et al. (US Patent 6,393,325) discloses an implantable nerve stimulator array that is capable of being placed on the skin, wherein the electrodes of the array are manually controlled by a joystick configuration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY A. PORTER, JR whose telephone number is (571)270-5419. The examiner can normally be reached on Monday - Thursday, 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on (571)272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. A. P./
Examiner, Art Unit 3766

/Carl H. Layno/
Supervisory Patent Examiner, Art
Unit 3766

Application/Control Number: 10/587,524
Art Unit: 3766

Page 8